

# Timber/Fish/Wildlife Forests And Fish Report



## Introduction

A national success story with an 18-year legacy of cooperative conservation began with the TFW Agreement of 1987 that was founded under President Ronald Reagan and has evolved during the past several administrations. TFW and FFR's strategy to address endangered species is one of the most comprehensive and successful national examples of cooperative conservation in forest resource management. As sovereign governments, the tribes believe that it is more efficient and effective to work in a collaborative and cooperative management process with their counterparts to implement their treaty-reserved management rights. The TFW cooperative strategy brings together tribes, state and federal agencies, environmental groups, and private forest landowners and has been successful at minimizing legal and legislative battles.

A variety of factors – including the listings of several western Washington salmon stocks under the Endangered Species Act (ESA), ongoing statewide water quality degradation, and concern over the continued economic viability of the timber industry – brought TFW participants together in November 1996 to develop joint solutions to these problems. Federal and local governments participated with original TFW members in what is commonly referred to as the TFW “Forestry Module Negotiations,” a significant component of Washington’s statewide salmon recovery effort. The result was a plan to update forest practices rules called the Forests and Fish Report (FFR), which was completed in April of 1999, and later adopted by the Washington State Legislature.

The FFR is based on four goals:

- To provide compliance with the ESA for aquatic and riparian-dependent species on non-federal forest lands;
- To restore and maintain riparian habitat on non-federal forest lands to support a harvestable supply of fish;

- To meet the requirements of the federal Clean Water Act for water quality on non-federal forest lands; and
- To maintain the economic viability of the timber industry in the State of Washington.

The six caucuses participating in FFR implementation are tribal, state and federal and local governments, the timber industry and conservation groups.

## Tribal Participation In TFW/FFR Implementation

Adaptive management rules are the keystone to both the TFW and FFR strategies. Adaptive management provides a predictable and consistent process for advancing science and information to assist the state Forest Practices Board in developing forest practices rules and achieving aquatic and forest resource goals. These rules were approved by the Forest Practices Board in 2001 to ensure that the cooperative conservation strategy is grounded in law.

While there is not consensus among tribes on the entire Forests and Fish Report, there is consensus that the Adaptive Management Program component is critical to its success. Adaptive management is the process of evaluation and monitoring to constantly gauge the effectiveness of management practices and determine if changes are needed. This ranges from the use of Interdisciplinary Teams to properly implement the intent of the forest practices rules in complex site-specific situations, to conducting long-term effectiveness monitoring to establish whether the rules are meeting resource objectives.

Tribal participation is a critical component of TFW and FFR implementation. The federal stakeholders continue to rely heavily on tribal technical information to gauge its success. The tribes offer a centuries-old tradition of resource stewardship, practice state-of-the-art technological innovation, and are strategically located to respond to the critical management needs in their local watersheds.

For the tribes, the primary factor in the success of TFW has always been the cooperative decision-making process. This consensus-based approach has empowered the tribes and acknowledged their management authority regarding forest practices management. The tribes have demonstrated their ability to establish and maintain a cooperative process for the management of forest resources while incorporating tribal concerns. As they have throughout the TFW process, participating tribes are utilizing the Northwest Indian Fisheries Commission for necessary technical expertise and to coordinate their work effectively and collaboratively.

Tribal involvement with the implementation of the FFR has evolved with the availability of federal funds to support those efforts. A tribal base program for evaluation of forest management impacts upon treaty-protected resources is furthering the develop-

ment of tribal capacity in the areas of silviculture, geology, and hydrology to complement their fisheries expertise. Additionally, tribal programs require coordination, information management and access to technical expertise to support tribal efforts as co-managers.

The tribes continue to develop and implement a comprehensive work plan evaluating the forest management guidelines set forth in the FFR for adequacy in meeting tribal salmon recovery goals. They have developed a comprehensive communication network and continue to implement a coordinated tribal response to improve both the content and application of the FFR in watersheds throughout the State of Washington.

Following are several examples of tribal activities related to TFW/FFR implementation.

## Tribe Works To Protect Threatened Murrelet

Tribal biologists rise early, searching for a threatened seabird.

With ears busy filtering out the hundreds of ambient forest sounds and eyes straining for dark birds entering a dark forest, biologists from the Stillaguamish Tribe painstakingly document every encounter with the marbled murrelet, a unique bird that relies on mature forests to nest, and marine waters to gather food.

As part of the TFW/FFR process, the tribal co-managers are working to learn more about where the murrelet lives – and how to better to protect the bird's forest home.

These surveys are not only crucial to understanding the murrelet, but could have a significant impact on forest practices and salmon recovery in Washington. The state's marbled murrelet populations are listed as "threatened" under the federal Endangered Species Act.

"Once we can prove that these birds occupy a given forest, that forest can be protected," said Jennifer Sevigny, a biologist with the Stillaguamish Tribe.

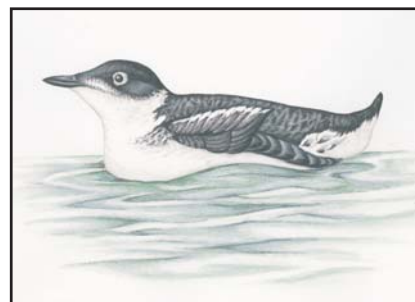
At most other times of year, the murrelet remains near the sea and its bounty of forage fish. During the breeding

season, though, the murrelet

will fly from sea to forest, carrying surf smelt, herring and sardines up to 70 miles to feed its single chick.

The tribe monitored nine sites within the Stillaguamish watershed in 2004 and two sites in 2005. They found two sites to be occupied by nesting marbled murrelets and detected signs of murrelet presence in six other sites.

"The murrelet shows us how interconnected our natural resources are, and how important protecting habitat is to wildlife. "Some of our best chinook spawning habitat is in the vicinity of the forests we are surveying for murrelets."



Marbled murrelet.

## Stream Buffer Analysis Tool Offers Fish Eye View

Using an innovative technique that looks at forest from the fish's point of view, scientists from the Northwest Indian Fisheries Commission (NWIFC) are looking at the effectiveness of streamside buffers to protect salmon.

"We're looking at the canopy from the fish's point of view, using a fish-eye lens to get the entire canopy in one snapshot," said Ash Roorbach, a riparian ecologist with the NWIFC. The fish-eye lens allows the researchers to take a picture of the forest canopy at a 180-degree angle with a camera held just inches above the stream. "With this technique, we see everything above the stream," he said.

In recent years, stakeholders in the TFW/FFR process have developed stream buffer rules that allow for timber harvest while protecting salmon habitat. Now, the stakeholders are going back and conducting a scientific review of those rules. "We didn't want to just write a number in a rule book and step away," said Bob Kelly, a Nooksack tribal member who serves on the state Forest Practices Board. "It's vital that we do this kind of research to determine if the buffers are appropriate."

Researchers use a metal tripod to hold the camera just above the water level in 30 western Washington streams. The camera shoots straight up, and through the fish-eye lens, provides a complete picture of the forest canopy within the buffer. "We take at least 10 pictures per stream, so we get a good idea of the shade conditions throughout the total buffer, not just at one point," said Roorbach.

The pictures are then analyzed to determine how much sunlight peaks through the forest. "The software we use to interpret the photos lets us determine the total amount of sky that is blocked, and then how much sunlight hits the creek at any given time," said Roorbach. Too much sun coming through the



Looking at trees through a fish-eye lens helps scientists determine the effectiveness of streamside forest buffers.

canopy can raise water temperatures to levels lethal to salmon.

The study is a project of the Cooperative Monitoring, Evaluation and Research (CMER) group, the science wing of the FFR process. Each FFR stakeholder – tribes, the timber industry, local state and federal governments and conservation groups – has a representative on the CMER group, which in turn reports to a central policy committee. "It's important to base policy decisions on impartial, scientific information," said Kelly. "By getting out into the woods and gathering data on the how the rules are working on the ground, we can ensure a sustainable timber industry and growing salmon populations."



## Hoh Tribe Road-Testing Fish Habitat Model

The Hoh Tribe is comparing the accuracy of a computer model that can predict the presence of suitable fish habitat in the forests of western Washington with knowledge that can only be obtained the old fashioned way—by foot.

Bob Howell, TFW/FFR technician for the Hoh Tribe, is field testing the computer model against information the tribe has already collected throughout the Hoh River watershed on the Olympic Peninsula. Howell has walked hundreds of miles of stream in the Hoh River watershed, documenting where fish are found and recording important fish habitat. The information is shared with the Washington Department of Natural Resources to develop maps used to determine the amount of streamside buffers needed to protect fish in timber harvest areas. Streams containing fish and good fish habitat are protected by larger buffers than non-fish bearing streams. The maps are also used to determine other possible impacts to fish and wildlife habitat from proposed forest practice applications.

The computer model created out by TFW/FFR stakeholders, is designed to use existing Geographic Information System data that uses gradient, elevation, basin size, and rainfall data to predict whether a stream segment on a map could be suitable fish habitat. The goal is to reduce the amount of human



Bob Howell, TFW/FFR technician for the Hoh Tribe, compares a computer model's prediction of fish habitat to fish habitat maps created by tribal technicians who gathered their information on foot.

checking required to verify stream information, thus reducing time and expense. While a computer model cannot be 100 percent accurate, the field tests will help fine tune its accuracy.

In some cases, the model predicted fish habitat in steep areas that have been heavily affected by debris flows created when old logging roads collapse, Howell said. "These areas might have been fish habitat at some point in the past, but they've been eroded down to bedrock from debris flows induced by past forest practices. It's good to indicate this is suitable habitat, but it's going to be awhile before it will support fish again."